Space Weather Forecast

Issued on Friday, 10 June 2022 at 13:14 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Chance of further Moderate class flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity is now at Moderate levels, with numerous Common-class flares observed that have increased in frequency in recent hours and an Moderate-class flare observed at 10/1053 UTC. There are currently five sunspot regions on the visible disc, with the two most notable regions both close to the northeast limb with moderate size and magnetic complexity. All other regions are simple, benign regions at this time. A Coronal Mass Ejection (CME) associated with a filament eruption, tied to a Common-flare from a sunspot region near the southern central disc at 09/2200 UTC is current being modelled, though is expected to miss earth. No further CMEs have been observed in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind speeds have been ambient, currently averaging around 300km/s. Total magnetic field strength was mainly weak, with the important north-south component varying weakly. Geomagnetic activity was Quiet.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be mainly Low, with a chance of further Moderate-class flares, mainly from the two sunspot regions close to the northeast limb. Strong class flare probabilities are very slightly increased due to uncertainty in the analysis of the sunspots in the far northeast. Further bright regions may rotate onto the earth-facing disc in the coming days to supplement the elevated flare risk.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently forecast. A coronal hole may connect with the Earth on Day 1 (10th), but as the feature is very small and weak on only slightly elevated winds are expected. Geomagnetic activity is forecast to be mainly Quiet with a chance of isolated Unsettled intervals Day 1 and into early Day 2 (11th).

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	20	20	20	20
Very Active	R3 to R5 X	No	3	3	3	3

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.